

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1. (Canceled)

2. (Currently Amended) A method for execution by at least one processor, the method comprising:

communicating with a first interface to identify classes and selecting at least one method of ~~a class~~ said classes for instrumentation;

installing hooks in the selected at least one method with instrumentation tools, said instrumentation tools reading and writing the classes in order to produce modified classes;

inserting instrumentation code in a bytecode representation of the selected at least one method without modifying a source code of the selected at least one method, said hooks enabling said inserting of the instrumentation code;

[[by]] generating a wrapper method with said instrumentation tools that contains the instrumentation code and a call to the bytecode representation of the at least one method, wherein the instrumentation code comprises bytecodes;

executing the bytecodes during execution of the at least one method; and

generating a call, by the executed bytecodes, to [[an]] a second interface wherein the call comprises information regarding the instrumented at least one method.

3. (Canceled)

4. (Previously Presented) The method of claim 2, wherein generating a wrapper method comprises:

- renaming the at least one method from an original name to a new name;
- creating a wrapper method with the original name;
- inserting bytecodes into the wrapper method that when executed generate the call to the interface; and
- inserting bytecodes into the wrapper method that when executed call the renamed at least one method.

5. (Previously Presented) The method of claim 4, wherein generating a wrapper method further comprises:

- setting a flag of the renamed at least one method to private.

6. (Previously Presented) The method of claim 2, wherein the selecting at least one method comprises:

- selecting at least one method of a class for instrumentation when the class is being loaded by a java virtual machine (JVM) for execution by the JVM.

7. (Previously Presented) The method of claim 2, wherein the selecting at least one method comprises:

- selecting at least one method of a class for instrumentation prior to execution of the class by a java virtual machine (JVM).

8. (Previously Presented) The method of claim 2, further comprising:

- monitoring the at least one method using the information regarding the instrumented at least one method.

9. (Currently Amended) A system comprising at least one processor implementing:

a first interface connected to a control object and configured to identify classes and
select at least one method of ~~a class~~ said classes for instrumentation;

an instrumentation tool configured to install hooks that enable insertion of ~~insert~~
instrumentation code in a bytecode representation of the selected at least one method without
modifying a source code of the selected at least one method by generating a wrapper method
with said instrumentation tool that contains the instrumentation code and a call to the
bytecode representation of the at least one method, wherein the instrumentation code
comprises bytecodes;

a java virtual machine configured to execute the at least one method including the
inserted bytecodes; and

~~[[an]]~~ a second interface configured to receive a call generated by the executed
bytecodes, wherein the call comprises information regarding the instrumented at least one
method.

10. (Canceled)

11. (Previously Presented) The system of claim 9, wherein the instrumentation tool is
configured to generate the wrapper method by renaming the at least one method from an
original name to a new name, creating a wrapper method with the original name, inserting
bytecodes into the wrapper method that when executed generate the call to the interface, and
inserting bytecodes into the wrapper method that when executed call the renamed at least one
method.

12. (Previously Presented) The system of claim 11, wherein the instrumentation tool is
further configured to set a flag of the renamed at least one method to private.

13. (Previously Presented) The system of claim 9, wherein the instrumentation tool is
configured to select the at least one method of a class for instrumentation when the class is
being loaded by a java virtual machine (JVM) for execution by the JVM.

14. (Previously Presented) The system of claim 9, wherein the instrumentation tool is configured to select the at least one method of a class for instrumentation prior to execution of the class by a java virtual machine (JVM).

15. (Previously Presented) The system of claim 9, further comprising:

A plug-in instrument configured to receive the information regarding the instrumented at least one method for monitor the at least one method.

16. (Currently Amended) A system comprising:

means for communicating with a first interface for identifying classes and selecting at least one method of ~~a class~~ said classes for instrumentation;

means for installing hooks in said selected at least one method with instrumentation tools, said instrumentation tools reading and writing the classes in order to produce modified classes;

means for inserting instrumentation code in a bytecode representation of the selected at least one method without modifying a source code of the selected at least one method ~~[[by]]~~, said means for installing hooks enabling said means for inserting instrumentation code;

means for generating a wrapper method with said instrumentation tools that contains ~~contains~~ the instrumentation code and a call to the bytecode representation of the at least one method, wherein the instrumentation code comprises bytecodes;

means for executing the bytecodes during execution of the at least one method; and

means for generating a call, by the executed bytecodes, to ~~[[an]]~~ a second interface wherein the call comprises information regarding the instrumented at least one method.

17. (Canceled)

18. (Previously Presented) The system of claim 16, wherein the means for generating a wrapper method comprises:

- means for renaming the at least one method from an original name to a new name;
- means for creating a wrapper method with the original name;
- means for inserting bytecodes into the wrapper method that when executed generate the call to the interface; and
- means for inserting bytecodes into the wrapper method that when executed call the renamed at least one method.

19. (Previously Presented) The system of claim 18, wherein the means for generating a wrapper method further comprises:

- means for setting a flag of the renamed at least one method to private;

20. (Previously Presented) The system of claim 16, wherein the means for selecting at least one method comprises:

- means for selecting at least one method of a class for instrumentation when the class is being loaded by a java virtual machine (JVM) for execution by the JVM.

21. (Previously Presented) The system of claim 16, wherein the means for selecting at least one method comprises:

- means for selecting at least one method of a class for instrumentation prior to execution of the class by a java virtual machine (JVM).

22. (Previously Presented) The system of claim 16, further comprising:

- means for monitoring the at least one method using the information regarding the instrumented at least one method.

23. (New) The method of claim 1, wherein the first interface is a HookControl interface.

24. (New) The method of claim 23, wherein the second interface controls processing of the instrumentation code in the wrapper methods and enables monitoring tools that receive information when the modified classes are executed.

25. (New) The method of claim 24, wherein the second interface is an ExecCallback interface and the instrumentation tool is at least one of a Bytecode Instrumentation Controller (BIC) and a Bytecode Instrumentation Program (BIP).